

REMARKS

This Amendment accompanies a Request for Continued Examination and is intended to supplement the Amendment After Final Rejection dated December 20, 2002, for which entry is respectfully requested.

Claim 1 has been further amended herein, specifically to emphasize the distinctive construction of the recited control circuit — namely, that the control circuit is constructed such that the idling current supplied to the amplifier is defined as an exponential function of the input control voltage. As pointed out in the Remarks in the December 20, 2002 Amendment, the provision of an idling current which is defined as an exponential function of the input control voltage differs significantly from, and offers substantial practical advantages over, the teachings of the Ruth patent cited as the basis for the outstanding final rejection.

Ruth does not teach or suggest a control circuit constructed as claimed in amended Claim 1. In contrast to Applicants' invention as set forth in Claim 1, Ruth discloses a V/I converter 204 which is constructed with a differential amplifier to generate control current that maps to a hyperbolic tangent (tanh) function. Ruth's tanh

function may approximate an exponential over a certain range. But it is not itself an exponential function. Nor can it provide the advantages of the present invention. See the first paragraph on page 10 of the Amendment dated September 12, 2002.

In the Advisory Action dated January 3, 2003, the Office observed that, for at least some range, the relationship of Ruth behaves as an exponential and would be functionally equivalent to the exponential relationship of the claimed invention. Even assuming arguendo that this were true, "functional equivalence" is not the proper test for patentability under § 103. Indeed, two devices can perform the very same function and their structures still be patentably distinct. And Ruth simply fails to suggest a control circuit constructed as set forth in amended Claim 1.

In view of the amendments presented herein, and for the reasons set forth in the foregoing Remarks and those included with the preceding Amendment, this application is clearly in condition for allowance. Applicants therefore respectfully request that the outstanding final rejection be withdrawn and that this application be passed to issue.

The Commissioner is hereby authorized to charge to Deposit Account No. 50-1165 any fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been requested separately, such extension is hereby requested.

Respectfully submitted,

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